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LISTING OF CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (Currently Amended):

~~A-perimeter~~ An integrated circuit (IC)

package comprising:

_____ a substrate supporting at least a die; and

_____ a package stiffener frame attachable to mounted at a perimeter of the
substrate, and arranged apart from the die on the substrate to deliver low-inductance
current to the die, via the substrate, while concurrently providing stiffening support to
the substrate on one of a perimeter side and a die side of the substrate, the
perimeter frame including at least one electrical structure electrically connectable to
the substrate.

Claim 2 (Currently Amended):

~~A frame~~ An IC package as claimed in

claim 1, where the at least one electrical structure is one of a ground wiring
connection, a power wiring connection, and a capacitor wherein the package stiffener
includes a copper (Cu) ring split into power and ground portions, and plastic couplers
arranged to mechanically secure, while electrically isolating the power and ground
portions of the split copper (Cu) ring.

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Claim 3 (Currently Amended): ~~A frame~~An IC package as claimed in claim 12, ~~the frame comprising a plurality of electrically segregated frame sections wherein the split copper (Cu) ring is mounted on the substrate, via a solder providing a low resistance path to deliver large amounts of current to the substrate and remote heat from the substrate.~~

Claim 4 (Currently Amended): ~~A frame~~An IC package as claimed in claim 1, ~~in which the frame is attachable to~~wherein the substrate is one of a thick-core, a thin-core, and a coreless substrate in one of a ceramic, a flex, and an integrated circuit printed circuit board (IC-PCB) carrier package.

Claim 5 (Currently Amended): ~~A frame~~An IC package as claimed in claim 4, ~~the package~~further being one of a pinned grid array (PGA), and a ball grid array (BGA) carrier package.

Claim 6 (Currently Amended): ~~A frame~~An IC package as claimed in claim 4, ~~the package~~further being one of a flip chip pin grid array (FC-PGA), and a flip chip ball grid array (FC-BGA) carrier package.

Claim 7 (Currently Amended): ~~A frame~~An IC package as claimed in claim 1, ~~wherein the package stiffener the frame substantially~~ made of one of electrically conductive, insulating, and intermingled electrically conductive and

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insulating sections, is one of a molded, stamped, etched, extruded and deposited frame, and is capable of withstanding temperatures of at least normal IC operation.

Claim 8 (Currently Amended): ~~A frame~~An IC package as claimed in claim 72, the sections further being thermally conductive~~further comprising a heat spreader plate bonded to the split copper (Cu) ring by epoxy and to the die by thermal interface material.~~

Claim 9 (Currently Amended): ~~A frame~~An IC package as claimed in claim 81, the frame being~~wherein the package stiffener is adapted to support at least partially support a heat sink.~~

Claim 10 (Cancel)

Claim 11 (Currently Amended): ~~A~~An IC package comprising:
a substrate supporting at least a die; and
a capacitor stiffener mounted at a perimeter of the substrate, and arranged apart from the die on the substrate to deliver low-inductance current to the die, via the substrate, while concurrently providing stiffening support to the substrate stiffener
~~frame attachable to a perimeter of a substrate on one of a perimeter side and die-side of the substrate to provide predetermined stiffening thereto, the stiffener frame including at least one electrical structure electrically connectable to the substrate.~~

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Claim 12 (Currently Amended): ~~A frame~~An IC package as claimed in claim 11, ~~where the at least one electrical structure is one of a ground wiring connection, a power wiring connection, and a capacitor~~wherein the capacitor stiffener has its respective side bonded to a power or ground plane in the substrate using solder.

Claim 13 (Currently Amended): ~~A frame~~An IC package as claimed in claim 11, ~~the frame comprising a plurality of electrically segregated frame sections~~wherein the capacitor stiffener includes a copper (Cu) ring split into power and ground portions, and plastic couplers arranged to mechanically secure, while electrically isolating the power and ground portions of the split copper (Cu) ring, and wherein the split copper (Cu) ring is mounted on the substrate, via a solder providing a low resistance path to deliver large amounts of current to the substrate and remote heat from the substrate.

Claim 14 (Currently Amended): ~~A frame~~An IC package as claimed in claim 11, ~~in which the frame is attachable to~~wherein the substrate is one of a thin-core, and a coreless substrate of a ceramic, a flex, and an integrated circuit printed circuit board (IC-PCB) carrier package, to provide predetermined stiffening thereto.

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Claim 15 (Currently Amended): ~~A frame~~An IC package as claimed in claim 14, ~~the package further~~ being one of a pinned grid array (PGA), and a ball grid array (BGA) carrier package.

Claim 16 (Currently Amended): ~~A frame~~An IC package as claimed in claim 14, ~~the package further~~ being one of a clip chip pin grid array (FC-PGA), and a flip chip ball grid array (FC-BGA) carrier package.

Claim 17 (Currently Amended): ~~A frame~~An IC package as claimed in claim 11, ~~the frame substantially wherein the capacitor stiffener~~ made of one of electrically conductive, insulating, and mixed electrically conductive, and insulating sections, is one of a molded, stamped, etched, extruded and deposited frame, and is capable of withstanding temperatures of at least normal IC operation.

Claim 18 (Currently Amended): ~~A frame~~An IC package as claimed in claim 4-7, ~~the sections further being thermally conductive further comprising a heat spreader plate bonded to the split copper (Cu) ring by epoxy and to the die by thermal interface material.~~

Claim 19 (Currently Amended): ~~A frame~~An IC as claimed in claim 17, ~~wherein the frame being capacitor stiffener is adapted to at least partially support partially a heat sink.~~

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Claims 20-62 (Cancel)
